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THE FRENCH INDEMNITY OF 1871 AND ITS EFFECTS

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THE discussion of the financial terms to be imposed on the defeated Central Powers recalls the famous five billion francs which Bismarck exacted from the French in 1871, and suggests that the story of that great transaction may help us to make a more intelligent analysis of the complex situation that now faces us. In the present article, therefore, we shall try to bring together such financial and commercial data as will give a fair idea of the importance of the indemnity payment in the economic history of the countries involved. Although the scantiness of some of the data makes extensive comparison difficult, enough has been found to give some interesting and significant results.

According to the terms of the Treaty of Frankfurt, France was to pay the five billion francs in the following instalments:¹

Thirty days after order was established in Paris	500,000,000
During 1871	1,000,000,000
By May 1, 1872	500,000,000
By March 2, 1874	3,000,000,000

On the last three billions, interest at 5 per cent was to be paid while the debt was outstanding. With the exception of 125,000,000 in notes of the Bank of France and some 325,000,000 which were allowed for the railroad in Alsace-Lorraine, payment might be made only in the following:

- Gold or silver.
- Notes of the Bank of England.
- Notes of the Bank of Prussia.
- Notes of the *Banque Royale des Pays Bas*.
- Notes of the National Bank of Belgium.
- Bills of exchange on these countries.

Some privileges of payment in advance were allowed, but only after due notice and not on account.

For any country the size of France this would have been a tremendous task, but for a country almost without an established government — the first payment on the indemnity was to be “ thirty days after order is restored in Paris ” — it might well appear overwhelming; and German statesmen seemed justified in their expectation that it would effectively curb the French power for a comfortable time to come. The provisional government set to work with commendable courage, however, and on June 27, 1871 — forty-eight days after the signing of the final treaty — opened subscriptions for a loan of two billions in 5 per cent perpetual *rentes* to be issued at 82½. This was promptly oversubscribed, thus

providing for the indemnity payments till the end of 1871. These payments, “ the first two billions,” as they were called, were made up of the following items:

Alsace-Lorraine railroad	325,098,400.00 fr.
Bank of France notes	125,000,000.00
French gold	109,001,502.85
French silver	63,016,695.00
German coin and notes	62,554,115.93
Bills:	
Thalers	312,650,509.01
Frankfort florins	25,816,752.37
Marks, <i>banco</i>	116,575,592.13
Dutch florins	250,540,821.46
Belgian francs	147,004,546.40
Pounds sterling	624,699,832.28

Thirteen months after announcing the first loan the government opened subscriptions for a second, this time for three billions, again in 5 per cent *rentes*, but issued at 84½. The response to this was astounding, for more than twelve times the amount desired was subscribed, more than half of the offers coming from foreign countries. The amounts subscribed in the leading money markets show how widespread was the interest in the loan:

Paris	11,500,000,000 fr.
London	334,000,000
Amsterdam	52,000,000
Antwerp	61,000,000
Hamburg	56,000,000
Cologne	207,000,000
Frankfort	206,000,000
Berlin	175,000,000

It is no small compliment to the credit of France at this time to note that about one-third of the foreign subscriptions were from Germany.² The remaining indemnity payments, “ the last three billions,” were thus provided for, and were made in the following items:

French gold	164,001,555.25 fr.
French silver	176,275,180.75
German coin and notes	42,485,029.25
Bills:	
Thalers	2,172,663,212.03
Frankfort florins	209,311,400.42
Marks, <i>banco</i>	148,641,398.27
Marks	79,072,309.89
Belgian francs	148,700,000.00
Pounds sterling	12,650,000.00

Combining these figures with those for the “ first two billions ” and summarizing them, we find that the total indemnity was paid as follows:

¹ Except where otherwise noted, the details regarding the financial arrangements for paying the indemnity are taken from Léon Say's *Rapport sur le Paiement de l'Indemnité de Guerre* (in *Les Finances de*

la France, 1, p. 363). This report is summarized in *Blackwood's Magazine*, February, 1875. (Reprinted in Rand's *Selections Illustrating Economic History*.) ² Details from the London *Economist*.

"Compensations"	325,098,400.00 fr.
French gold and silver	512,294,933.85
Bank notes, foreign coin	230,039,145.18
Bills of exchange	4,248,326,374.26

Of the French gold and silver only about 250,000,000 francs were taken from active circulation, the remainder being obtained from the Bank of France and foreign sources. This sum, however, does not represent the total loss of specie attributable to the indemnity, for several hundred millions were exported by bankers to cover exchange transactions. Say estimated that the total loss of gold was about one billion francs. The country's stock of silver, on the other hand, increased by about 300,000,000 francs. This was principally due to the large sales of silver by the German government, which was just undertaking the vast recoinage by which its currency was changed to the gold standard. Much of this silver, it should be noted, had been received from France in the indemnity payments. The French government, having the privilege of paying in gold or silver, had drawn considerable amounts of silver bullion from the Bank of Hamburg, when exchange rates made this profitable, and coined it into five-franc pieces to send to Germany. These soon found their way back to France in exchange for the gold that was wanted for the new reichsmarks.

Although we have separated the indemnity payments, in the above discussion, according to the loans by which they were financed, it should not be inferred that these vast sums were transferred in two payments. It was arranged that subscribers to the loans might pay in easy instalments, and the payments to Germany were made in a similar way. During the last twelve months of the period of payment, remittances were made with great regularity, at the rate of nearly 250,000,000 francs a month. They were completed in September 1873.

Turning now to the most important item in the sums paid to Germany — the bills of exchange — we find that these were acquired, in round numbers, as follows:

Subscriptions to loans	1,773,000,000 fr.
Bankers' syndicate	700,000,000
Bought in market	1,774,000,000

The syndicate of bankers was formed to guarantee the second of the great loans, and in return for somewhat favorable terms on this undertaking agreed to furnish 700,000,000 francs in bills suitable for payment on the indemnity. A comparison between the bills remitted in the "first two billions" and those sent later (p. 269 above) reveals some important differences. The sterling bills, which were by far the largest item in the first payments, became quite the smallest in the later ones, and bills on Germany make up the bulk of the sums paid over. This change was largely due to the conditions imposed by the treaty. These stipulated that only gold and silver, or bills directly convertible into them, should be considered "liberative," and that if the French government chose to exercise its option of paying in bills drawn on certain foreign countries, it must bear the expense incurred by the German government in con-

verting them into German funds. Finding that such conversion by the German treasury was proving unduly expensive, the French undertook the operation themselves and paid in acceptable German bills as far as possible. They were greatly aided in this design by the fact that throughout the period Germany was debtor to England, both on account of short-time securities sold in that country in financing the war, and because of an unfavorable balance of trade. In the first two billions only 23 per cent of the funds were in "liberative" bills, while in the later payments 88 per cent were of this sort.

The operations of the French treasury thus became the most important factor in the demand for foreign exchange, and it will therefore be of interest to follow the developments in this market in some detail. Bills of every description, ranging in amount from less than 1,000 francs to over 5,000,000, and evidently arising from all sorts of commercial and financial transactions, were included in the great total of over four billion francs remitted in this way. In Chart I the monthly averages of the London quotations for bills on Paris and Berlin during the period of the indemnity payments are plotted in percentage deviations from par.¹ Since the notes of the Bank of France, the legal tender of the country, were slightly depreciated at times, the value in gold of bills on Paris was subject to a corresponding depreciation, i. e., the pound sterling commanded so many more francs, London prices being quoted in francs. It is with this "paper par," as determined by the premium on gold (indicated by a dotted line in the Chart) that the quoted rates must be compared in order to observe the play of the forces which ordinarily affect the price of exchange.

Soon after beginning payments to Germany, the French treasury made a veritable raid on the foreign exchange market, buying heavily while also withdrawing specie from circulation for shipment to Berlin. The result was a sharp rise in the specie premium and in the price of sterling, late October seeing quotations of over 2½ per cent on the former and over 3 per cent on the latter. At these prices it paid to send gold to England, and on November 4 the *Economist* reported shipments

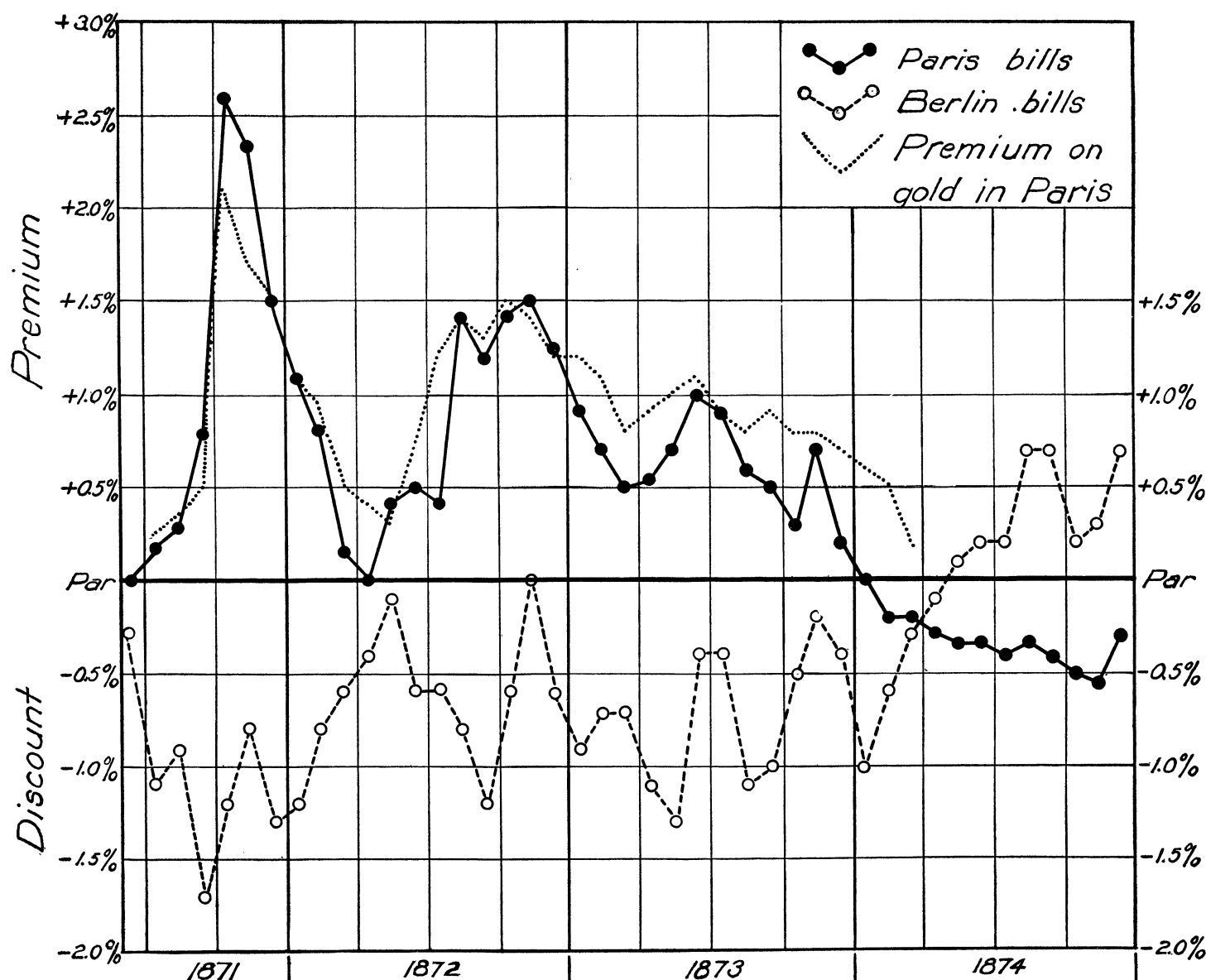
¹ Chart I is based on the following data computed from quotations in the *Economist*. London prices being given in francs and thalers, a rise in the rate is favorable to London.

LONDON PRICES OF BILLS ON PARIS AND BERLIN
(Monthly averages — percentage of par)

	1871			1872			1873			1874		
	Paris	Berlin	Premium on gold	Paris	Berlin	Premium on gold	Paris	Berlin	Premium on gold	Paris	Berlin	Premium on gold
January	100.0	100.0	100.0	101.1	98.8	101.1	100.9	99.1	100.0	100.0	99.0	.6
February	100.0	100.0	100.0	100.8	99.2	99.5	100.7	99.3	100.0	99.8	99.4	.5
March	100.0	100.0	100.0	100.15	99.4	.5	100.5	99.3	.8	99.8	99.7	.2
April	100.0	100.0	100.0	100.0	99.6	.4	100.55	98.9	.9	99.7	99.9	
May	100.0	100.0	100.0	100.4	99.9	.3	100.7	98.7	1.0	99.65	100.1	
June	100.0	99.7	.3	100.5	99.4	.7	101.0	99.6	1.1	99.65	100.2	
July	100.17	98.9	.25	100.4	99.4	1.2	100.9	99.6	.9	99.6	100.2	
August	100.27	99.1	.35	101.4	99.2	1.4	100.6	98.9	.8	99.65	100.7	
September	100.8	98.3	.5	101.2	98.8	1.3	100.5	99.0	.9	99.6	100.7	
October	102.6	98.8	2.1	101.4	99.4	1.5	100.3	99.5	.8	99.5	100.2	
November	102.3	99.2	1.7	101.5	100.0	1.4	100.7	99.8	.8	99.45	100.3	
December	101.5	98.7	1.5	101.25	99.4	1.2	100.2	99.6	.7	99.7	100.7	

CHART I.—LONDON PRICES OF BILLS ON PARIS AND BERLIN, AND PREMIUM ON GOLD IN PARIS, 1871-74

(MONTHLY AVERAGES, PERCENTAGE OF PAR)

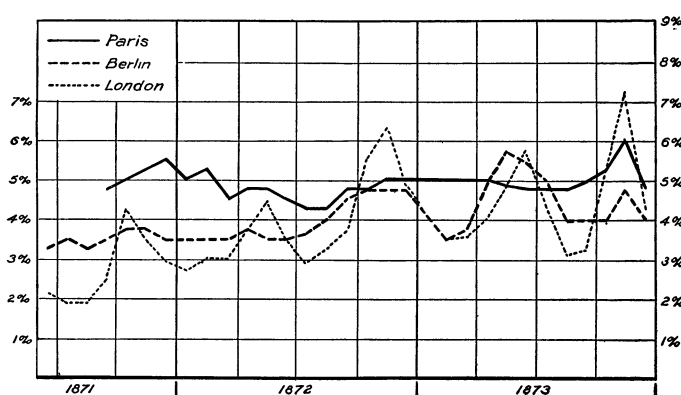


from France during the previous week. Meanwhile the reverse was taking place in Germany. The heavy remittances of sterling bills from France quickly depressed their price and the English export point was reached in July, shipments of gold being ordered late in the month. By September a further decline appeared, and gold continued to leave England for Germany. At first these shipments were not regarded with concern, for there was a plethora of money in London, discount rates of less than 2 per cent being quoted on three months bank paper. As the drain of gold continued, however, and it became evident that the German government was now London's most important creditor, considerable uneasiness appeared, and the probable policy of Berlin with regard to these large credits was the subject of much anxious speculation in Lombard Street. The watchful directors of the Bank of England advanced the bank rate to 3 per cent on September 21 and to 4 per cent a week later. (See Chart II for market rates.) This having proved ineffective, a further increase to 5 per cent was announced on October 12. German exchange soon began to move in favor of London, and the Bank

rate was lowered to 4 per cent on November 16. This was soon followed by another drop in German exchange; but as some gold was still being received from several countries, including France, no uneasiness was felt.

CHART II.—MARKET RATES OF DISCOUNT IN PARIS, BERLIN, AND LONDON, 1871-73

(MONTHLY AVERAGES)



With the beginning of the new year affairs took a very different turn. Not only had the German government

received no payments on the indemnity during the last months of 1871, but it had been paying certain short-time obligations in London. This, combined with an adverse balance of trade, caused a rise in German exchange which was not checked by the resumption of the indemnity payments in January and February. After the first week in March the French again ceased payments and made no more till late in August, after the loan of the "last three billions." The result was a further rise in German exchange and a fall in the Paris rate. The renewal of the indemnity payments at the end of August was preceded by a rise in French exchange as the French treasury began its preparations, and was followed by a further sharp increase, as the payments proceeded. In November the rate went high enough to cause some shipments of gold to England. This was due partly to French purchases of silver in London, to be used in taking advantage of the privilege of making indemnity payments in that metal, and partly to a considerable stringency which developed in the London market, carrying rates on the best bank paper to over 7 per cent. These rates affected German exchange even more adversely for a time, and the German government discreetly suspended the rather considerable purchases of gold for its new coinage which it had been making for some time. These disturbances contributed, no doubt, to the financial crisis in Berlin a month later (December), when bank accommodation was sharply restricted and forced sales of securities in foreign markets were reported.

As we have already seen, the French continued their indemnity payments with great regularity during 1873. They were also following their new policy of paying in bills on Germany, as far as possible. This great demand caused exchange to continue favorable to Germany, despite the heavy buying by Germans in foreign markets, which was leading to an increasingly unfavorable merchandise balance of trade (see Chart III);¹ and in consequence the shipment of gold from England to Germany continued almost without interruption during the first half of the year. The heavy English subscriptions to the second French loan, on the other hand, enabled the French treasury to carry out these operations without raising French exchange above the paper par. Meanwhile the European money markets were considerably disturbed by the serious embarrassments in Vienna and it was probably with a certain relief, therefore, that the *Economist* printed a report from its Paris corre-

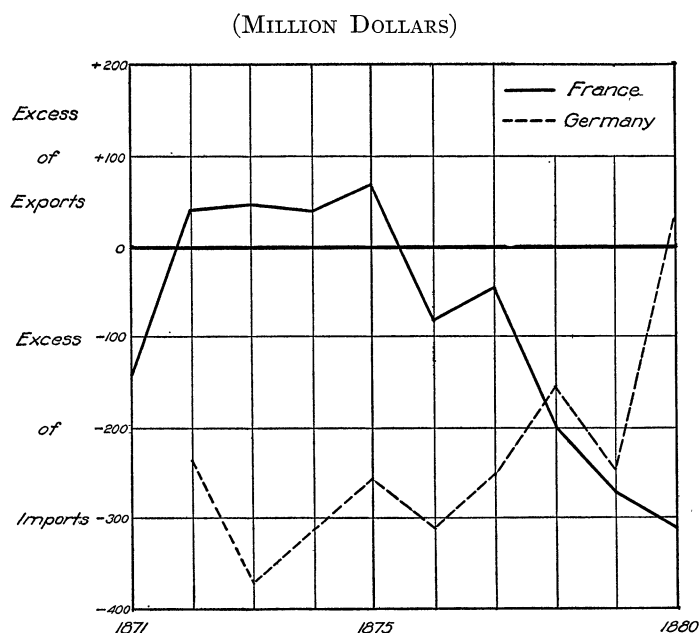
¹ Chart III is based on the following data, computed from figures in the National Monetary Commission's *Statistics for Great Britain, Germany, and France*:

	France	Germany		France	Germany
1871.....	-138.8		1876	- 82.4	-313.2
1872.....	+ 38.4	-234.7	1877	- 46.8	-252.0
1873.....	+ 46.4	-368.7	1878	-199.0	-155.2
1874.....	+ 38.6	-314.2	1879	-272.8	-248.2
1875.....	+ 67.2	-259.0	1880	-313.0	+ 30.0

² *Economist*, April 4, 1874.

³ V. Bonnet, *Le Cr dit et les Banques d'Emission*, p. 243.

CHART III.—MERCHANDISE BALANCE OF TRADE OF FRANCE AND OF GERMANY, 1871-80



spondent (May 24) of a rumor that the French government intended to relieve the drain on the money markets by paying the next indemnity instalment in gold borrowed from the Bank of France. This arrangement was, in fact, carried out to the extent of 150,000,000 francs, but the principal reason seems to have been the convenience of the French treasury, which wished to anticipate instalments still due on its last loan. It did have a favorable effect, however, for the German government suspended its demand for gold for several weeks, and the Bank of England's discount rate, which had been kept at 6 per cent for over a month was down to 3 per cent by the end of August.

This may be said to mark the end of the direct influence of the indemnity payments. They were completed in September, and before the end of that month the failure of Jay Cooke and Company had brought the American financial structure down in a crash which soon reacted on the European markets. It was now the American demand which threatened the English gold stock and carried the Bank of England's rate to 9 per cent early in November. Once this was checked, the English market lapsed into the state of dullness which usually follows such periods of stress. French exchange, relieved of the treasury demand, began a steady decline which, by the end of March, had reached a price at which there was a slight profit in shipping French coin from England, and, a month later, made even the shipment of bullion profitable. Germany also found French exchange going against her, and made large shipments of gold to that country. It was reported, in fact, that most of the gold being added to the Bank of France's store was coming from the branch at Nancy through which most of the business with Alsace-Lorraine was carried on;² and it is said that during the year France received more gold from Germany than she had sent in paying the indemnity.³

The remittance of bills of exchange is, of course, only the mechanism in the fundamental operations of buying,

selling, lending, and borrowing, which constitute the trade of the world; and we must therefore look beyond the four billions of bills which France sent to Germany, if we wish to discover the real values in which this part of the great debt was paid. French economists have devoted considerable attention to this question, but the lack of data on many important points reduces most of their conclusions to rough estimates.

Specie, according to M. Say's calculations, accounted for only about 200,000,000 francs of the bills, this being the difference between the net diminution in the country's monetary stock (700,000,000 francs, as pointed out above) and the 500,000,000 francs exported by the treasury. If we turn now to the figures for France's foreign trade (Table I), we discover some striking

TABLE I. — FOREIGN TRADE OF FRANCE
AND GERMANY *

Year	GERMANY (Million marks)				FRANCE (Million francs)	
	Imports including precious metals	Exports including precious metals	Imports excluding precious metals	Exports excluding precious metals	Imports	Exports
1871.....	†	†	†	†	3567	2873
1872.....	3464	2492	3256	2317	3570	3762
1873.....	4254	2465	3752	2277	3555	3787
1874.....	3670	2459	3599	2342	3508	3701
1875.....	3573	2560	3527	2491	3537	3873
1876.....	3911	2605	3798	2545	3988	3576
1877.....	3872	2827	3768	2760	3670	3436
1878.....	3715	2905	3506	2885	4176	3180
1879.....	3888	2820	3767	2774	4595	3231
1880.....	2844	2976	2803	2923	5033	3468

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission).

† Data were not collected for years prior to 1872.

changes which will help to explain the source of these bills. During the five years ending 1871 the French imported annually over 300,000,000 francs worth of goods more than they exported, and at the same time imported considerable sums of specie. This is natural enough for a country which had, according to Say, an income of some 700,000,000 francs a year from foreign investments, and realized considerable sums from the expenditures of foreign residents and travelers. In 1872 all this changed. By the end of April exports equaled imports, a month later they exceeded them by 40,000,000 francs, and on the year's trade showed a "favorable" balance of over 190,000,000 francs. This turn of events was apparently due to the large French grain crop and the revival of industry, for the imports showed no decline over the previous year. The foreign trade of the next year made an even better showing, through a further increase in exports, imports remaining almost unchanged. In these two years, therefore, French traders had a balance of over 500,000,000 francs in bills which they could sell to their government.¹

The two items above mentioned — specie and the merchandise balance — make a total of but little more

than one-sixth of the bills, and so we must seek further. The large earnings derived by French investors from their foreign securities had been devoted in part to paying for France's balance of imports, in part to her annual imports of specie, and in part to further investments abroad. The first two, it is evident from the above, no longer claimed any of these funds, and there is evidence that the last was also abandoned. The London *Economist*, for example, reported on January 6, 1872 that two subscriptions recently opened on the Paris market had proved complete failures, one having received too little to pay the cost of advertising. We may conclude, therefore, that practically all the income from French foreign investments was being turned over to the government in exchange for the bonds of the new loans. This was probably reduced below the pre-war figure by sales of French holdings during 1870 and 1871, but as this decrease is probably offset by the expenditures of foreign residents and travelers in France, which we have not counted, we may take Say's estimate of the earnings of French investments (700,000,000 to 800,000,000 francs annually) as a fair indication of the funds obtained by the French treasury from this source. This would amount to over 2,100,000,000 francs in the three years of the indemnity payments.

Although quantitative data regarding the remainder of the bills (about one billion francs) is almost wholly lacking, we may safely ascribe them to two sets of transactions: sales in foreign markets of foreign securities owned by Frenchmen, and subscriptions by foreigners to the French loans. As for the first we may cite certain figures collected by Say. In 1868 the coupons of Italian *rentes* paid in Paris amounted to 85,000,000 francs, in 1872 to only 60,000,000; coupons on Turkish *rentes* decreased in still greater proportion. Reference has already been made to the heavy foreign subscriptions to the second French loan, but it is not possible to give definite figures concerning the allotments. French economists assert that most of these bonds soon found their way back to France, the French buyers paying for them as they had paid their direct subscriptions — in funds derived from foreign investments.

Even less definite data are available concerning the other side of the picture — the form in which Germany received her ultimate payments of the sums represented by the four billions and over of bills of exchange. We have already mentioned one of these in discussing the movement of the exchanges, where we noted several periods when Germany was importing large sums of specie. Although definite figures on this point cannot be obtained, we can work out a rough approximation from the figures for exports and imports, which are published in two categories: "including the precious metals" and "excluding the precious metals" (Table I). By comparing these figures we find a net specie im-

¹ Say argues that this balance was more than neutralized by the heavy imports of 1871; but, as O'Farrell points out (*The Franco-German Indemnity*, p. 14), there is no reason to believe that France, with her large revenues from abroad as an offset, was indebted for all these goods.

portation of 347,600,000 marks for the two years 1872 and 1873. Since exchange was more favorable to Germany during 1871 than during 1872, we may assume that more specie was imported, though probably less than in 1873. Thus we may take 500,000,000 marks as a rough estimate of the increase in the monetary stock of Germany during the period. If we assume that this includes the cash received in the indemnity payments (400,000,000 marks), which is not clear, we have 100,000,000 marks remaining as the amount of specie obtained with bills of exchange. This probably understates the case.

An inspection of the foreign trade statistics given above (Table I) reveals another possible item to be paid for out of the four billions of bills; for it at once appears that Germany was importing more commodities than she exported during this period; over 2,400,000,000 marks in the two years 1872 and 1873. Now in order to determine whether this balance of imports was a new development, and therefore a probable offset for a part of the bills remitted by France, we should need to know the figures for earlier years, but these unfortunately are not to be had. As a rough indication of the probable development, however, we may cite the figures for German trade with certain countries (Table II). From

TABLE II. — GERMANY'S TRADE WITH
FOREIGN COUNTRIES *

Year	UNITED KINGDOM (Million marks)		FRANCE (Million francs)		BELGIUM (Million francs)		UNITED STATES † (Million marks)	
	Exports to Germany	Imports from Germany	Exports to Germany	Imports from Germany	Exports to Germany	Imports from Germany	Exports to Germany	Imports from Germany
1869	640	366	253	230	..	..	164	100
1870	560	308	..	..	128	108	168	108
1871	768	384	..	..	196	213	140	100
1872	862	384	409	211	223	158	164	184
1873	734	398	..	..	248	157	252	244

* From *Statistical Abstract for the United Kingdom*; M. Block, *Statistique de la France*, Paris, 1875; *Statistique de la Belgique: Commerce avec les Pays Etranger*; *United States Monthly Reports on Commerce and Navigation*, 1874.

† Figures for North German states only.

these it appears that German exports to Great Britain, France, and Belgium showed comparatively little change from the pre-war figures, while imports from these countries increased 30-60 per cent. Only the trade with the United States seems to have developed an opposite tendency; but these figures, it should be noted, are for the North German states alone, and by no means offset the trend in the other countries. Although the evidence is far from conclusive, there seems to be ground for believing that Germany's balance of merchandise imports increased during the period. If we assume that the balance in 1871 was probably less than that for the two years for which we have data, we may take three billion marks as the total balance for the

three years; and of this at least a third, and probably more, must represent goods paid for with indemnity funds.

These two items (gold and merchandise) by no means absorb all the bills received from France, and we must seek for less tangible factors to account for them. We have already seen that the German government had borrowed considerable sums in London to finance the war, and paid these debts in the years immediately following. It is impossible to say how great these obligations were; but since over a billion and a half of the indemnity was set aside for the payment of the expenses of the war, as we shall see later, it seems likely that the payments to London were for large amounts. Another transaction requiring payments abroad was the purchase of foreign securities. Not only did German citizens subscribe heavily to the second French loan, making offers for some six billion francs, but in the wave of speculation which swept over the country other foreign investments were very popular.¹ The government alone had several hundred millions to invest for certain funds to which a part of the indemnity had been devoted, and a considerable share of this sum must have contributed, directly or indirectly, to the demand for securities owned or issued abroad. Other intangible imports probably increased also, but data concerning these cannot be obtained.

The spending of money is usually so easy, especially for governments, that we shall not find it worth while to devote much time to describing Germany's use of the indemnity funds. The following summary, compiled from figures given by Wagner,² shows the more important of the items involved:

EXPENDITURE OF THE INDEMNITY (MILLION FRANCS)

War costs	1,689.0
Pensions and pension fund	738.7
War damages	174.8
Fortifications	421.8
War treasure	150.0
Other military expenses	450.0
Navy	119.6
New Reichstag building	30.0
Alsace-Lorraine railroad	511.8
Luxembourg railroad	23.6
Paid South German states	583.1
Miscellaneous	108.0

Information concerning the use made by the South German states of their quotas is not available, but it is known that the funds were largely devoted to various military purposes.

Even a casual inspection of the above table reveals the importance of war expenditures in the total. If we include the bulk of the sums paid to the South German states in this category, we find that over four-fifths of the indemnity was absorbed by expenditures attributable to war and preparation for war. The funds destined

¹ B. Serrigny, *Les Conséquences Économiques et Sociales de la Prochaine Guerre*, 1909, pp. 379, 380.

² A. Wagner, "Das Reichsfinanzwesen," *Jahrbuch für Gesetzgebung, Verwaltung, und Rechtspflege*, 1874, 3, pp. 112 ff.

for uses which did not require immediate disbursement were invested in various securities, of which the most important classes were: bonds of the German states, certain railroad bonds, bills on London, and collateral loans.¹

To discover the full significance of the indemnity for Germany, we must go beyond the evidence afforded by the above statement of government accounting. The expenditures and investments provided for in these plans released on the German market, within about two years, a sum nearly three times as great as the total monetary stock of the country and considerably greater than the combined debt of all the German states, including debts incurred for railroad building,² and serious readjustments were sure to be required. This did not wholly escape German leaders. Herr Bamberger, a member of the Reichstag, argued vigorously that the German market could not absorb these funds so quickly without risking grave difficulties, and urged that the government should keep some of them in foreign investments for a while;³ but these views did not prevail.

All the conditions were favorable for a great industrial expansion. To the feeling of pride and confidence aroused by the brilliant military victory was added the stimulus of comparative ease in the money market and the prospect of large government expenditures. Discount rates in Berlin, which for some years before the war had averaged higher than the rates in London and Paris, and since the middle of 1869 had seldom been below 4 per cent, remained at about $3\frac{1}{2}$ per cent for a year after the indemnity payments began, a rate well below that prevailing in Paris but still generally above London figures.

Financial and industrial conditions soon showed the effects of this situation. A lively speculative movement, affecting both domestic and foreign securities, was followed by the organization of a host of new undertakings of all sorts, whose shares found ready purchasers. Although not confined to Germany, this expansion was much more pronounced there, as may be seen from the figures given in Table III. More than twice as many companies were organized in the two years 1871 and 1872 as in the seventy years before. Some of this de-

TABLE III. — NUMBER OF JOINT STOCK COMPANIES ORGANIZED *

Year	Germany	Austria	France	United Kingdom
1871.....	207	127	83	821
1872.....	479	248	239	1116
1873.....	242	98	220	1234
1874.....	90	15	214	1241
1875.....	55	8	253	1172
1876.....	42	4	239	1066
1877.....	44	5	290	990
1878.....	42	2	256	886
1879.....	45	3	511	1034
1880.....	97	13	797	1302

* From *Handwörterbuch der Staatswissenschaften*.

velopment was doubtless due to the liberalizing of the legislation governing joint-stock companies in 1870, but other forces played an important part.⁴ The nature of these new ventures is very significant. According to figures cited by Max Wirth⁵ (Table IV), a strikingly

TABLE IV. — SECURITIES ISSUED IN 1872 *

(MILLION FRANCS)

	Government	Banks	R.R. and industries
Germany	26.32	432.41	913.12
Austria	94.31	377.00	517.23
United States	905.02	10.00	1129.70
France	3500.05	280.50	193.10
Great Britain		229.50	1209.98

* From *Moniteur des Intérêts Industriels*. Cited in Wirth, *Geschichte der Handelskrisen*, p. 511.

large share of them (about a third) were in the field of banking. There was, in fact, a veritable mania for this form of investment, both in Germany and Austria. In 1870, the shares of forty-eight banks with a capital of 847,000,000 marks were quoted in Berlin; three years later ninety-five more banks with a paid-in capital of only 150,000,000 marks had been organized.⁶ These new institutions, though organized with scantier funds, undertook the financing of all kinds of enterprises, thereby adding to the general expansion. The figures in Table V give a further indication of the part played

TABLE V. — GERMAN GREAT BANKS *

Year	DEPOSITS (Million marks)			COLLATERAL LOANS (Million marks)		
	Deutsche Bank	Diskontogesellschaft	Darmstädter Bank	Deutsche Bank	Diskontogesellschaft	Darmstädter Bank
1871.....	8	14.8	22.4	13.2	8.4	7.9
1872.....	9	16.8	12.0	19.9	37.8	14.7
1873.....	7	64.8	27.3	8.7	16.1	15.3
1874.....	11	36.5	16.4	14.5	14.5	9.6
1875.....	12	9.2	12.8	16.4	.6	10.3
1876.....	14	11.3	9.1	32.2	1.5	7.6
1877.....	10	7.5	1.9	11.0	2.1	8.9
1878.....	9	7.2	5.6	15.5	5.3	18.5
1879.....	12	8.0	5.7	34.8	14.7	28.0
1880.....	13	9.7	6.1	26.2	24.8	30.3

* From J. Riesser, *German Great Banks*, 1911, pp. 205 ff., 321 ff.

by the banks, the increase in their collateral loans and deposits being quite marked in the early seventies. All this was accompanied by a vast bank-note expansion

¹ G. A. Soetbeer, "Die Fünf Milliarden," p. 9 (in *Deutsche Zeit- und Streit Fragen*), Berlin, 1874.

² *Ibid.*, pp. 7-8.

³ L. Bamberger, *Politische Schriften*, Berlin, 1896, vol. 4.

⁴ G. A. Soetbeer, "Die Fünf Milliarden," p. 44. Engels' figures for the early period are somewhat larger. *Handwörterbuch*, I, p. 190.

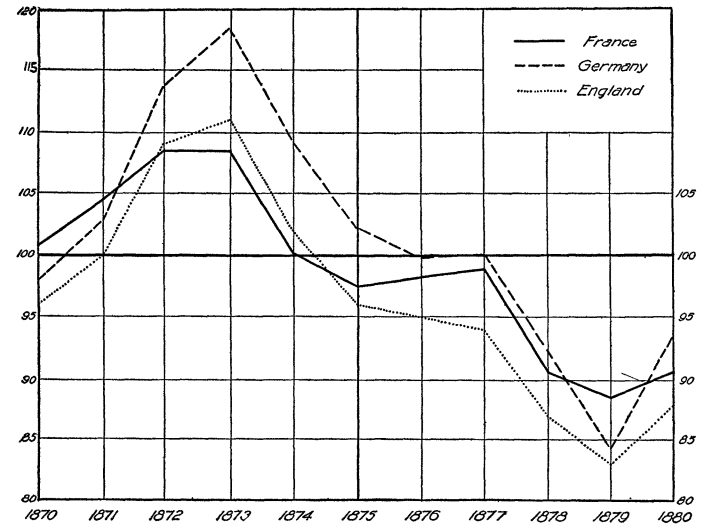
⁵ Max Wirth, *Geschichte der Handelskrisen*, 1874, p. 511.

⁶ B. Serrigny, *Les Conséquences Économiques et Sociales de la Prochaine Guerre*, Paris, 1909, p. 382.

which added some 40 per cent to the money in circulation.¹

It was not long before prices reflected these changes. In 1872 they were nearly 15 per cent above the pre-war level (Chart IV), and in 1873 they were still higher.

CHART IV.—INDICES OF GENERAL PRICES IN FRANCE, GERMANY, AND ENGLAND, 1870-80
(AVERAGE FOR 1865-69 = 100)



Here again the same phenomenon appeared in other countries but in less degree, French prices rising less than half as much, and English prices midway between.² Security prices also showed a marked upward trend;

TABLE VI.—INDICES OF GENERAL PRICES
1865-69 = 100

Year	FRANCE		GERMANY		GREAT BRITAIN	
	<i>Annuaire Statistique</i>	Palgrave's index	Schmitz' index	Soetbeer's index	Sauerbeck's index	Economist index
1870.....	100.9	91	98.0	99.4	96	87
1871.....	104.3	102	102.8	102.7	100	84
1872.....	108.4	105	113.8	109.7	109	92
1873.....	108.4	105	118.3	111.8	111	95
1874.....	100.3	97	109.2	110.1	102	93
1875.....	97.5	95	102.3	105.1	96	90
1876.....	98.2	95	99.9	103.7	95	88
1877.....	98.9	96	100.1	103.3	94	88
1878.....	90.7	91	92.4	97.5	87	82
1879.....	88.6	87	84.3	94.7	83	71
1880.....	90.7	88	93.4	98.5	88	82

and, as usual, the rise anticipated the general expansion, the highest quotations being generally found in 1872. The shares of three German railroads rose nearly 13 per cent in that year (Chart V);³ while bank shares advanced even more, in some cases over 100 per cent in two years. (Table VII.) These increases were not

¹ G. A. Soetbeer, "Die Fünf Milliarden," p. 48.
² These comparisons are based on the index numbers of Schmitz, Sauerbeck, and the *Annuaire Statistique*, which seem to be the most comparable of the available figures of the kind. In Table VI three other well known index numbers are also given. ³ See Table 8.
⁴ Wirth gives many examples, *Geschichte der Handelskrisen*, 1874, pp. 563, 564.

CHART V.—AVERAGE PRICES OF THE SHARES OF THREE RAILROADS IN FRANCE, IN GERMANY, AND IN ENGLAND, 1871-80
(PERCENTAGE OF PAR)

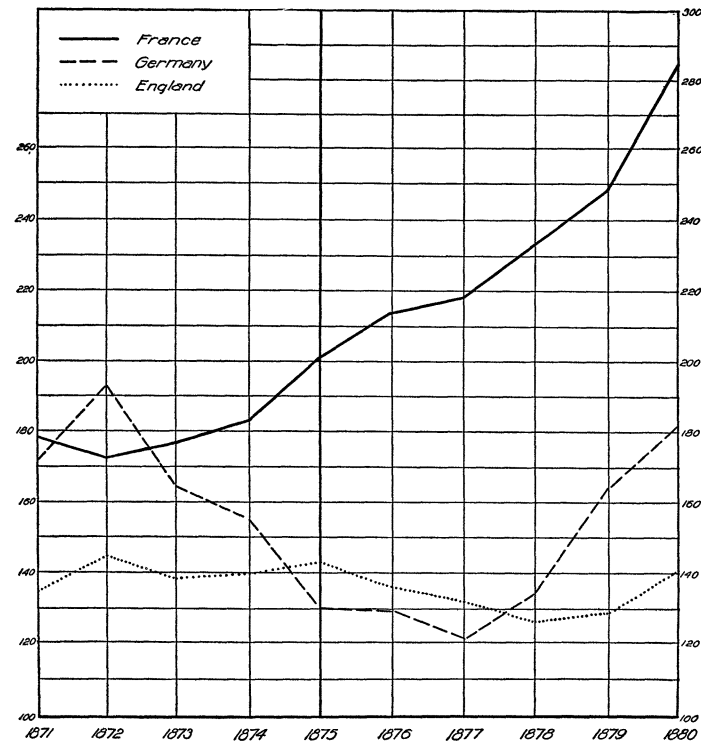


TABLE VII.—PRICES OF GERMAN BANK SHARES *

Year	<i>Diskontogesellschaft</i>	<i>Darmstädter Bank</i>	<i>Deutsche Bank</i>
1870.....	138.0	130.0	100.7
1871.....	225.0	185.0	118.0
1872.....	335.0	216.0	115.8
1873.....	179.7	161.0	84.5
1874.....	177.2	154.0	89.2
1875.....	135.5	119.0	77.5
1876.....	107.2	100.0	80.0
1877.....	100.5	101.2	89.1
1878.....	130.5	115.7	100.7
1879.....	193.2	148.7	145.3
1880.....	183.5	155.0	153.5

* From R. van der Borcht, *Statistische Studien über die Bewährung der Actiengesellschaften*, 1883.

paralleled in all industries, to be sure, but there was a rise all through the market.⁴

This price movement was only one aspect of a much broader industrial expansion, which we shall try to follow in some detail. The gross receipts of the Prussian railroads were nearly 20 per cent greater in 1873 than in 1871; and although much of this was due, apparently, to the 16 per cent increase in railroad mileage during these years, it is nevertheless an indication of great industrial activity. The receipts per kilometer, moreover, show an appreciable gain for the roads as a whole, from which we may conclude that the older roads enjoyed great prosperity. The French roads, on the other hand, though they increased their mileage nearly as much as the Prussian roads, did not make as great gains in their receipts (Table IX). The output of the basic industries,

TABLE VIII. — PRICES OF RAILROAD SHARES IN FRANCE, GERMANY, AND ENGLAND *

(AVERAGES OF END-OF-THE-MONTH QUOTATIONS)

Year	FRANCE			GERMANY			ENGLAND		
	North- ern R.R. †	Paris- Medit. ‡	Southern R.R. ‡	Berlin- Ham- burg	Rhei- nisch. R.R.	Köln- Mün- den	Great North- ern	London North- western	Mid- land R.R.
1871	989.0	881.6	626.7	170.2	166.0	178.5	132.7	138.3	133.3
1872	977.0	851.2	596.5	237.0	169.5	172.5	137.2	150.8	144.7
1873	1018.8	862.9	594.2	199.0	145.3	146.5	130.6	147.4	136.9
1874	1054.3	889.5	621.7	205.0	133.0	124.7	138.0	149.1	132.0
1875	1174.7	944.6	693.6	176.5	117.4	96.2	139.0	146.6	142.4
1876	1248.3	989.0	753.4	175.0	112.8	100.5	132.1	144.0	132.7
1877	1264.1	1023.2	768.2	175.0	104.2	84.1	122.4	147.0	126.1
1878	1365.2	1077.3	824.2	190.0	108.9	102.6	111.4	144.1	124.2
1879	1471.5	1145.5	863.8	191.0	155.0	145.7	118.2	142.0	126.7
1880	1608.3	1344.0	1029.8	236.0	160.2	149.0	124.0	158.6	138.1

* Quotations for French railroad shares from the London *Economist*, for German shares from Borgh, *Statistische Studien über die Bewährung der Actiengesellschaften*, and for English shares from the London *Economist*. † Par 400. ‡ Par 500.

TABLE IX. — GROSS RECEIPTS OF RAILROADS IN FRANCE, PRUSSIA, AND GREAT BRITAIN *

Year	FRANCE		PRUSSIA		GREAT BRITAIN	
	Total million francs	Per kilom. 1000 francs	Total million marks	Per kilom. 1000 marks	Total million £	Per mile 1000 £
1871	715	46.3	133.4	24.5	48.8	3.09
1872	792	45.4	147.7	25.1	53.2	3.29
1873	833	45.9	159.9	25.2	57.7	3.49
1874	819	43.6	165.6	25.6	59.2	3.50
1875	863	44.5	165.8	24.1	61.2	3.56
1876	887	44.2	165.3	22.4	62.2	3.57
1877	868	44.2	164.3	19.9	62.9	3.57
1878	932	43.4	161.4	17.7	62.8	3.51
1879	946	42.5	194.9	19.6	61.7	3.39
1880	1061	45.9	242.2	16.3	65.4	3.53

* Figures for France from *Statistics for Great Britain, Germany, and France* (National Monetary Commission); for Prussia from Schwartz and Strutz, *Die Staatshaushalt und die Finanzen Preussens*, App. LXV; and for Great Britain from *Statistical Abstract for the United Kingdom*, 1868-84.

iron and coal, gives further evidence of the expansion of business. The production of pig iron increased about 50 per cent in the two years after 1871 and more than doubled in value, while nearly 25 per cent more coal was mined. In France the increase in both these commodities was a little larger (Tables X and XI), but as production must have been unfavorably affected by the political disorders in 1871, the year with which comparison is made, this difference is not very significant. It is probable, moreover, in view of the great increase of French exports to Germany in 1873,¹ that this activity reflects the expansion of German rather than French industry. The total production of all mining industries in Germany was about 24 per cent greater in 1873 than in 1871. In

¹ *Statistics for Great Britain, Germany, and France* (National Monetary Commission), p. 349.

TABLE X. — PRODUCTION OF PIG IRON *

Year	FRANCE †	GERMANY		GREAT BRITAIN	
	Thousand tons	Thousand tons	Million marks	Thousand tons	Million £
1871	860	1492	111.4	6630	16.6
1872	1218	1927	209.2	6740	18.5
1873	1382	2174	234.0	6570	18.0
1874	1416	1856	150.6	5990	16.4
1875	1448	1981	136.5	6370	15.6
1876	1435	1801	106.0	6560	16.0
1877	1507	1899	104.9	6610	16.1
1878	1521	2119	110.3	6380	16.1
1879	1400	2201	108.8	6000	14.9
1880	1725	2692	157.6	7750	19.3

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission), and *Statistical Abstract for the United Kingdom*. † The value of the French output is not given.

TABLE XI. — PRODUCTION AND VALUE OF COAL *

Year	FRANCE		GERMANY		GREAT BRITAIN	
	Million tons	Francs per ton	Million tons	Marks per ton	Million tons	Shillings per ton
1871	13.2	12.4	29.3	7.4	117.3	6.0
1872	15.8	13.4	33.3	8.9	123.5	7.4
1873	17.4	16.6	36.3	11.1	127.0	7.4
1874	16.9	16.5	35.9	10.7	125.0	7.2
1875	16.9	15.9	37.4	7.9	131.8	7.0
1876	17.1	15.3	38.4	6.8	133.3	7.0
1877	16.8	14.0	37.5	5.6	134.6	7.0
1878	16.9	13.5	39.5	5.2	132.6	7.0
1879	17.1	12.8	42.0	4.8	134.0	7.0
1880	19.3	12.7	46.9	5.2	146.8	8.6

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission), and *Statistical Abstract for the United Kingdom*.

textiles also there was an immense expansion, the consumption of raw cotton having nearly doubled, as appears in the following table:²

TABLE XII. — CONSUMPTION OF RAW COTTON (MILLION HUNDREDWEIGHT)

	Germany	England	France
1865-69	1.2	8.0	1.7
1870-74	2.1	10.7	1.5
1875-79	2.4	10.9	1.8

It may be objected that this comparison between Germany and France gives a misleading impression, since the industrial expansion of the early seventies was quite general in Europe, while France, her energies being absorbed by the payment of the indemnity, was least affected. I have therefore included in the above-mentioned tables some of the more important statistics of England's industrial development during this decade, in order to compare German conditions with a situation more normal than that in France. In pig-iron pro-

² W. T. Layton, *An Introduction to the Study of Prices*, London, 1912.

duction, coal production, consumption of raw cotton, general prices, and security prices, the increases in England were less than in Germany, in some cases even less than in France. Only the gross receipts of the English railroads show as great gains as were made in Germany. We may conclude, therefore, that the developments in the latter country differed in degree, at any rate, from those in most neighboring countries. The speculative boom in Austria might seem to be an exception to this statement; but the German and Austrian money markets were so interdependent at this time that it is not surprising to find similar tendencies in them both.

Such a great acceleration of industrial activity might well be expected to cause a greater demand for labor and a rise in wages in consequence. All accounts seem to agree that this is what occurred,¹ but definite figures are almost wholly lacking. In Table XIII I have brought

TABLE XIII. — EMPLOYMENT AND WAGES *

Year	No. EMPLOYEES			WAGES	
	French coal ind.	German coal ind.	German iron ind.	French coal ind. Francs per day	Ruhr district Marks per day
1871.....	83,649	150,005	23,191	2.45	3.00
1872.....	91,899	162,172	26,111	3.25	4.50
1873.....	105,513	178,867	28,129	3.35	5.00
1874.....	106,289	185,504	24,342	3.45	4.00
1875.....	108,712	183,823	22,760	3.35	3.80
1876.....	110,802	182,423	18,556	...	3.00
1877.....	108,907	168,761	18,188	...	2.57
1878.....	106,415	168,068	16,202	...	2.66
1879.....	102,472	170,509	17,386	...	2.55
1880.....	107,236	178,799	21,117	...	2.70

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission); *Coal Mine Labor in Europe* (U. S. Commissioner of Labor); Pieper, *Die Lage der Bergarbeiter im Ruhrrevier*.

together some data in regard to the mining industry. From these it appears that the number of workers employed in the Prussian coal mines was about 19 per cent greater in 1873 than in 1871, and wages in the Ruhr district rose over 60 per cent during the same period. In France the number employed in the coal industry increased in greater degree (28 per cent), but wages much less (13 per cent). This will not seem surprising if we recall that in most other industries the expansion in France was less than in Germany, so that the general demand for labor was less affected. The prosperity of the German laborers is further shown by the increase in the deposits in the savings banks of Prussia during these years (Table XIV).

The influence of the indemnity funds in promoting the industrial development just described cannot be measured quantitatively. To attribute the expansion

TABLE XIV. — SAVINGS BANK DEPOSITS *

Year	PRUSSIA (Million marks)	FRANCE (Million francs)
1871	578.6	537
1872	688.9	515
1873	836.1	535
1874	987.2	573
1875	1112.0	660
1876	1221.3	769
1877	1300.0	863
1878	1383.8	1016
1879	1476.8	1155
1880	1592.8	1280

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission).

wholly to this cause would be foolish exaggeration; for it would have been little short of a miracle if the hopes and plans of German industrial leaders had not been greatly affected by the general belief in the great promise which the future held in store for their country. The underlying psychological forces, always so important in matters of this kind, were probably never of greater weight. It would be equally erroneous, however, to conclude that the indemnity payments were a minor factor in an almost inevitable course of events. Not only did the absorption of these great sums involve important readjustments in the German market, affecting money rates, prices, and profits more than in other countries, but the very expectation of these changes contributed in no small degree to the optimism already inspired. Investors, with many millions of their funds released by the expenditures and investments of the government, bought first the existing issues of securities, and then those of the newer concerns, with less and less discrimination. Speculators promptly saw the opportunities for profit in these developments, and the way of the promoter became easier and easier.

By the middle of 1873 there were signs that all was not well with the German industrial structure. Early in March the correspondent of the London *Economist* reported that it was beginning to be apparent that capital was not so abundant in Berlin as had been supposed, and at the end of April the break in the Austrian market, where the underlying conditions were much like those in Germany, gave warning that the soundness of many of the new undertakings was not above question. Many German firms and individuals thereupon began to "get out from under," taking considerable losses, but this did not become general till late in the year, and the Berlin market remained remarkably firm, considering the circumstances. The breakdown in the United States, however, destroyed what confidence was left in German speculative circles, and the markets suffered a decline of vast proportions. Bank shares, which had been such favorites with investors, dropped more than 80 per cent in some cases (Table VII), and the numerous companies which the banks had fostered suffered as badly. Wirth gives an account of 34 of the latter whose aggregate values decreased over 70 per cent after the first of April.² Railroads, banks, and even manufactur-

¹ G. A. Soetbeer, "Die Fünf Milliarden," p. 47; B. Serrigny, *Les Conséquences Économiques et Sociales de la Prochaine Guerre*, Paris, 1909, pp. 385, 386.

² Max Wirth, *Geschichte der Handelskrisen*, 1874, pp. 656, 657.

ing concerns went down in a general collapse, which lasted fully two months and affected the whole of the country. The French market, of course, could not hope to avoid all effects of these disturbances, but nothing approaching a panic developed there, and it may be said that France suffered less than any of the other principal European countries. The natural conservatism of her investors, and especially the forced economy incident to absorbing the great government loans for the indemnity, saved the country from most of the financial excesses of the period.

The depression which, as usual, followed these trying developments was as long and serious as the previous expansion had been extraordinary. The more numerous the undertakings and the more optimistic the investors in such a period, the greater the probability that mistakes will be made in the utilization of the country's resources, which will have to be undone or endured during later years; and insofar as the indemnity helped to increase these factors, it may be called responsible, indirectly, for the hard years which now ensued.

Referring again to the various sets of figures we cited when outlining the period of expansion, we find a great change in the second half of the decade. General prices in 1879 were more than 28 per cent below the level of 1873 (Chart IV). The prices of the three German railroads, which had reached their highest point in 1872, were also ahead of general prices in the decline, their average in 1877 being more than 37 per cent lower than in the former year (Chart V). This doubtless reflects a considerable decrease in the earnings of these roads; for the gross earnings per kilometer of the Prussian roads declined steadily during the remainder of the decade, except in 1879. The total gross earnings remained almost stationary during these years (Table IX). The production of pig iron, which had increased 50 per cent during the years before the crisis, fell off nearly 15 per cent in the year following (Table X) and did not attain anything like its former proportions until 1878. The steady fall in prices caused the value of the product to decline even more than the volume of the output, which doubtless made the depression all the more serious. The coal output increased slowly after the crisis, but the value of the product fell nearly 50 per cent (Table

XI). About the only German industry to make encouraging gains was the merchant marine (Table XV).

The change for the worse in the position of the laboring classes may be inferred from the figures showing the number employed in the iron and coal mines (Table XIII). In the former the decline was continuous till 1878 and the number did not regain the figure for 1871 during the decade; in the latter there was practically the same development. Wages, of course, were much affected. The daily earnings of the Ruhr miners fell almost 50 per cent by 1879; and the workers of other districts were nearly as badly off, as may be seen from the data for wages in the manufacturing district of Chemnitz (Table XVI). Emigration, moreover, by

TABLE XVI. — WEEKLY WAGES IN CHEMNITZ *

	1873	1874	1875	1876	1877	1878
	Marks	Marks	Marks	Marks	Marks	Marks
Spinners . . .	14.2	14.2	14.2	13.6	13.6	13.6
Weavers . . .	14.2	14.2	12.0	10.8	10.8	10.8
Tailors	17.6	17.6	14.0	11.6	11.6	11.6
Lace	6.4	5.6	4.7	3.6	3.2	1.8
Founders . .	17.1	16.0	15.6	14.8	14.8	14.8

* From "State of Labor in Europe," *United States Consular Reports*.

which these conditions might have been relieved, was greatly discouraged by the depression in the United States, and fell to a small fraction of the numbers in the early seventies (Table XVII). The deposits in Prussian

TABLE XVII. — EMIGRATION FROM GERMANY *

Year	Number
1870	79,333
1871	102,740
1872	154,824
1873	134,194
1874	75,502
1875	56,289
1876	59,587
1877	21,964
1878	24,215

* From Serrigny, *Les Conséquences . . . de la Prochaine Guerre*.

savings banks increased, both the total and per capita figures; but this may have been due to the development of different habits of saving, rather than to greater prosperity of the laboring classes.

This turn of events greatly altered the relation which the German money market bore to the rest of Europe. During the payment of the indemnity the Bank of Prussia had increased its cash holdings some 38 per cent (Chart VI), but now it faced a very different situation. The heavy imports which had begun when Germany was a creditor in all the money markets continued after the indemnity payments had ceased (Table I), and the country soon faced an adverse trade balance which carried a large amount of the recently acquired gold out again. The Bank was naturally concerned about the

TABLE XV. — MERCHANT MARINE *

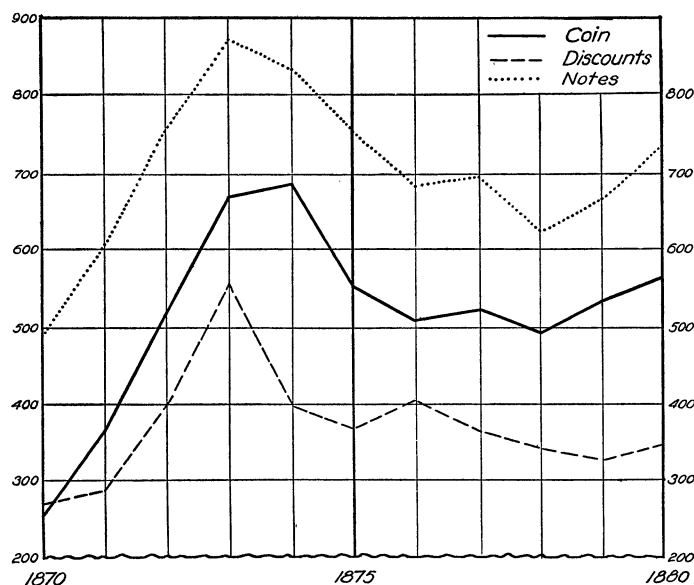
(THOUSAND TONS)

Year	Germany	France
1871	982.3	
1872	988.6	1080
1873	999.1	1060
1874	1033.7	1030
1875	1068.3	1020
1876	1084.8	1010
1877	1103.6	980
1878	1117.9	970
1879	1129.1	930
1880	1171.2	910

* From *Statistics for Great Britain, Germany, and France* (National Monetary Commission).

CHART VI.—COIN, DISCOUNTS, AND NOTES OF
THE BANK OF PRUSSIA (REICHSBANK
AFTER 1876), 1870-80

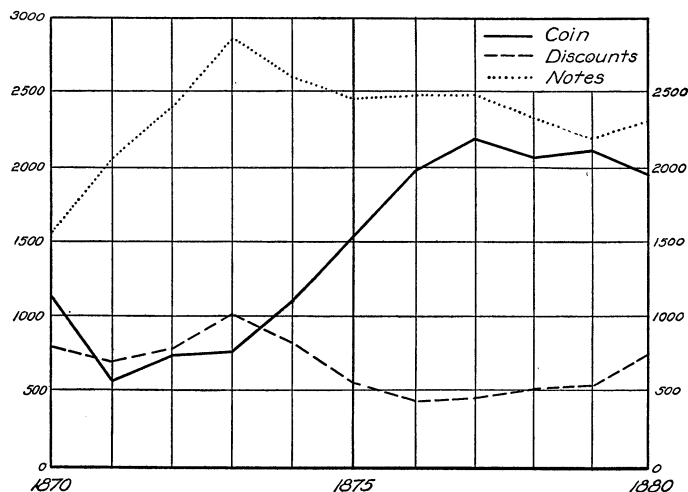
(ANNUAL AVERAGES, MILLION MARKS)



resulting demands on its reserve and endeavored to check the drain. The comparative ease which had prevailed in the Berlin market disappeared after 1874 and discount rates were thereafter generally above those in London and Paris, as had been the case before the war (Chart VIII). Every rise in London rates seems to be

CHART VII.—COIN, DISCOUNTS, AND NOTES
OF THE BANK OF FRANCE, 1870-80

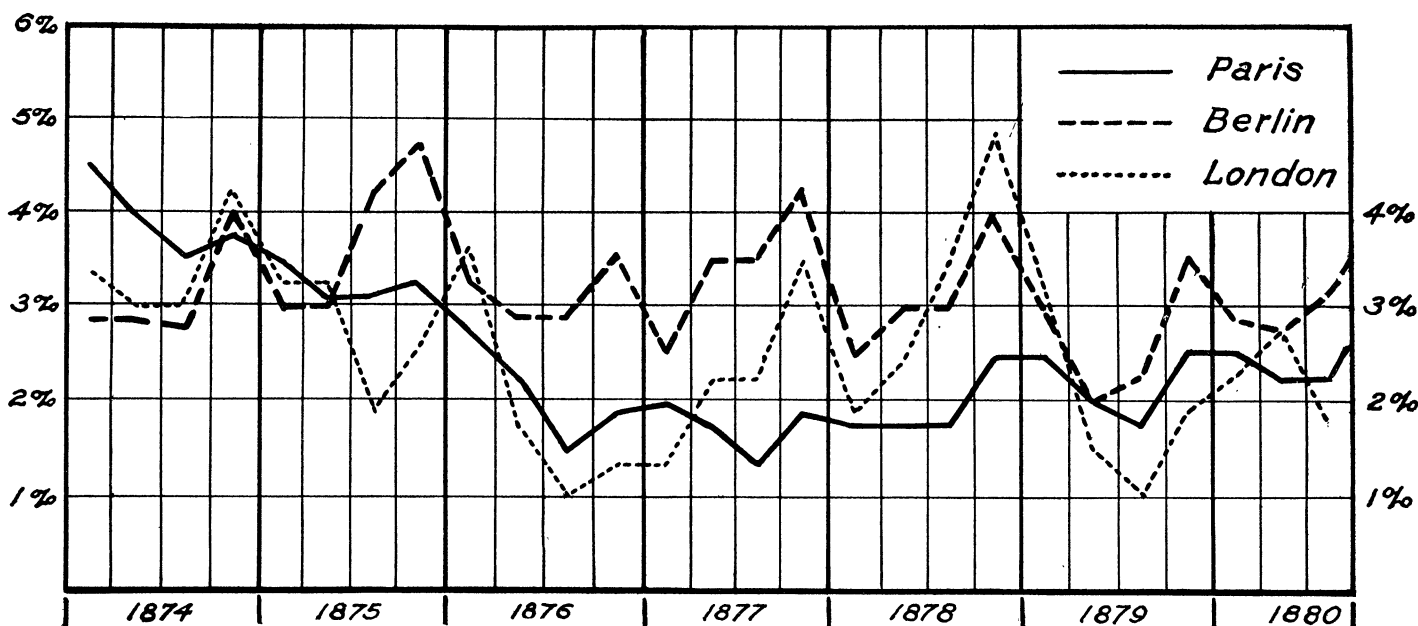
(ANNUAL AVERAGES, MILLION FRANCS)



Germany was no more alone in this depression than in the expansion that preceded it, but suffered longer and more sharply. The price of the shares of the three French railroads slumped during the panic week in early November, but recovered promptly and continued to rise thereafter. The shares of the three English roads felt the effects of the panic rather more than this and suffered losses during the years of depression which followed, but the decline was neither so great nor of so

CHART VIII.—MARKET RATES OF DISCOUNT IN PARIS, BERLIN, LONDON, 1874-80

(QUARTERLY AVERAGES)



followed by protective measures in Berlin, while Paris rates maintain their traditional steadiness. The Bank of France, which had managed to avoid a serious depletion of its reserve¹ during the trying months of the payments to Germany, while rendering the greatest service both to the government and to industry, now began to pile up the great stock of specie which was characteristic of its management ever afterward (Chart VII). Much of this increase, as we have seen above, came from Germany during the early years.

long duration as in Germany (Chart V). These different results were due, in large part at least,² to changes in the receipts of the roads. After a rather bad showing in 1877 the receipts per kilometer of the French roads began to pick up and in 1880 surpassed the previous

¹ The proportion of silver in the reserve increased.

² The financial arrangements between the French roads and the government probably helped to sustain the value of their shares somewhat. The shares of the Great Northern in England, on the other hand, were abnormally depressed for a time by a threat of serious competition in one of its most profitable territories.

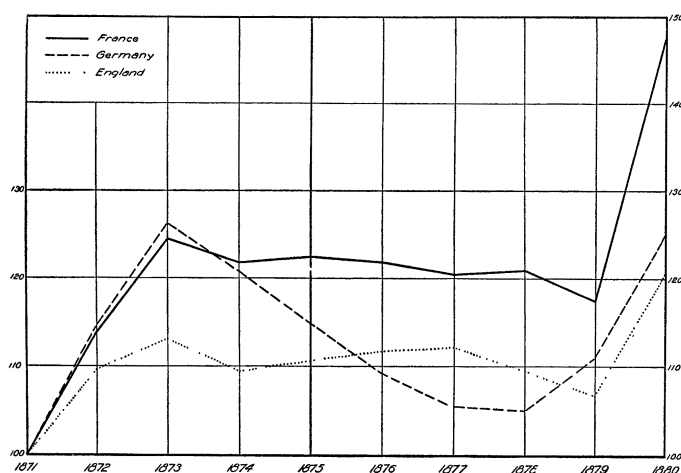
record figures of 1873. The total receipts increased steadily except in 1877. The English roads more than held their own until 1879 (Table IX).

The figures for the other basic industries tell much the same story. The French output of pig iron was hardly affected by the crisis and continued to increase until 1879. The coal industry was a little harder hit, but the value of the product fell much less than was the case in Germany (Table XI). The British coal industry, after some decline in 1874, recovered and remained almost stationary until 1880; while the iron industry suffered no such depression as is reflected by the German figures.

In order to bring together the various comparisons made in the above paragraphs I have reduced the statistics for general prices, pig-iron production, coal production, coal prices, total railroad receipts, and railroad receipts per mile to percentages of the figures for 1871, and combined these series in a simple arithmetic average for each of the three countries (Chart IX).¹ As indices

CHART IX.—INDICES OF BUSINESS CONDITIONS IN FRANCE, GERMANY, AND ENGLAND, 1871-80

(AVERAGES IN 1871 = 100)



of business conditions these averages are, of course, not all that could be desired; but since comparable data concerning other significant factors are not available, we may take these as rough measures of the industrial

situation. The greater outburst of activity in Germany in the early seventies and the more pronounced depression which ensued there are clearly shown by these figures. It is probable that the choice of the year 1871 as the base exaggerates the fluctuation of the averages for France, since conditions in that year were somewhat below normal.

The developments described in the above study lead to a conclusion somewhere between the exaggerated hopes entertained by the German business community for the most part and the strange rumors said to have circulated in France to the effect that the disasters beyond the Rhine had caused the government to consider the return of the indemnity to France. The marked expansion and later depression of German industry was not wholly due to the receipt of the indemnity funds—some such result was probably inevitable after the great military victory; but it seems reasonably clear that the influence on the German money market of the vast remittances from France was a powerful factor in this course of events. Herr Bamberger's fears had not been without foundation. There are some considerations, however, on the other side of the question. The wiping off of all the costs of the war from the budget of the new empire, the establishing of the German currency on a gold basis, and the undertaking of various domestic reforms without immediate expense were advantages which most Germans of the day considered substantial gains from the French billions.

¹ These averages are as follows:

INDICES OF BUSINESS CONDITIONS IN FRANCE, GERMANY, AND ENGLAND

	France	Germany	England
1871	100.0	100.0	100.0
1872	113.7	114.3	109.6
1873	124.3	126.1	113.0
1874	121.8	120.8	109.4
1875	122.4	114.9	110.7
1876	121.9	109.2	111.6
1877	120.4	105.3	112.1
1878	120.9	104.9	109.5
1879	117.4	111.0	106.8
1880	147.2	125.0	120.7